

Fig. 1

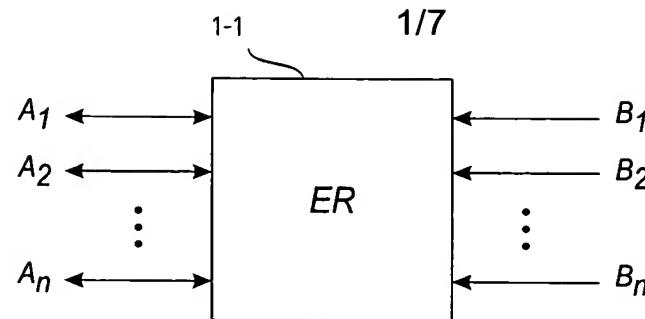


Fig. 2

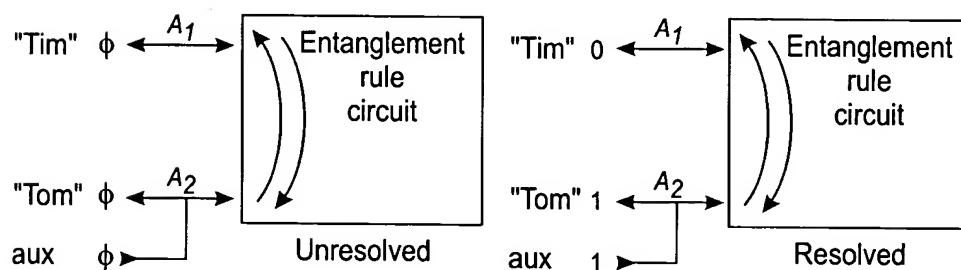
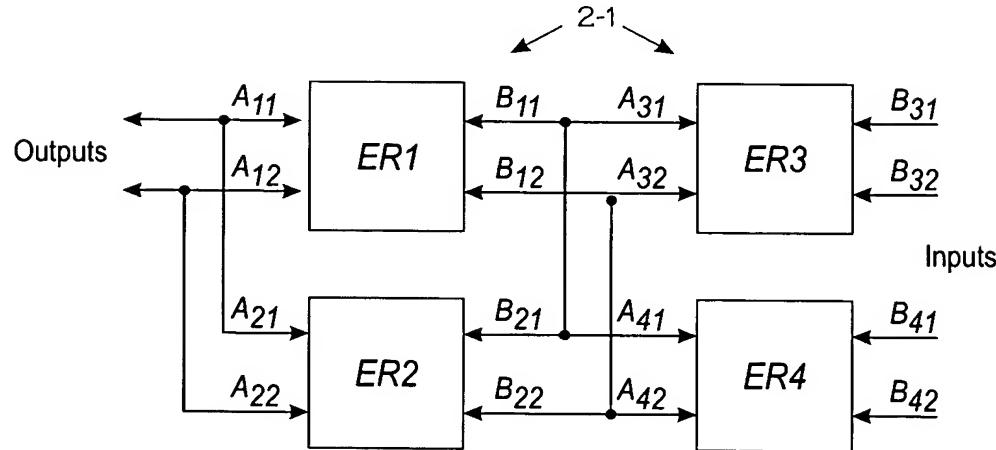
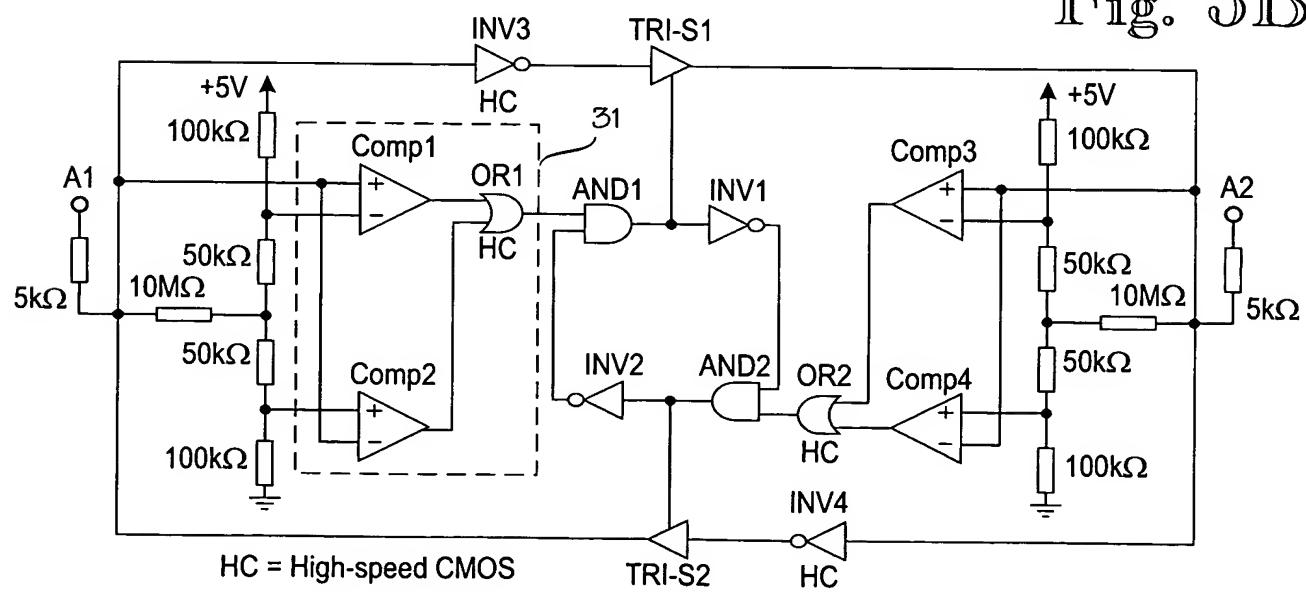


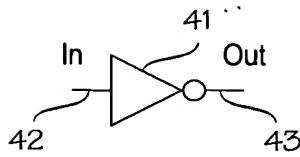
Fig. 3A

ϕ = Indefinite

Fig. 3B

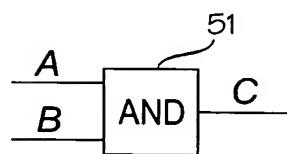


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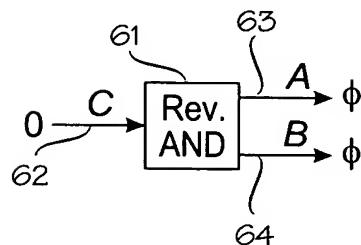
In	Out
0	1
1	0

Fig. 4



A	B	C
0	0	0
0	1	0
1	0	0
1	1	1

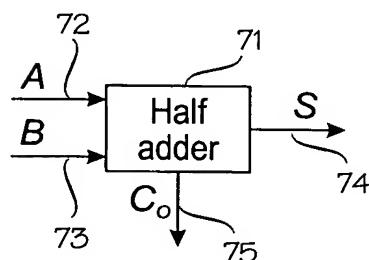
Fig. 5



C	A	B
0	ϕ	ϕ
1	1	1

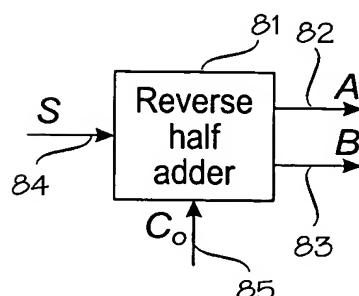
$$\left\{ \begin{array}{l} A=1 \rightarrow B=0 \\ B=1 \rightarrow A=0 \end{array} \right.$$

Fig. 6



A	B	S	C _o
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

Fig. 7



S	C _o	A	B
0	0	0	0
1	0	0	1
1	0	1	0
0	1	1	1

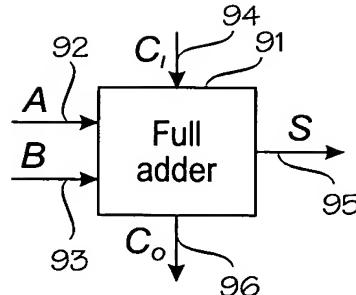
Fig. 8

$$\left\{ \begin{array}{l} S=0 \& C_o=0 \rightarrow A=B=0 \\ S=0 \& C_o=1 \rightarrow A=B=1 \end{array} \right.$$

$$\left\{ \begin{array}{l} \text{if } S=1 \& C_o=0 \text{ then:} \\ \quad \text{if } A=1 \text{ then } B=0 \\ \quad \text{if } B=1 \text{ then } A=0 \end{array} \right.$$

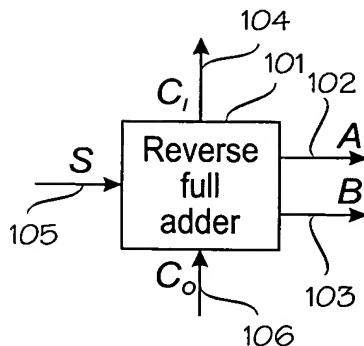
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Fig. 9



A	B	C _i	S	C _o
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

Fig. 10



S	C _o	A	B	C _i
0	0	0	0	0
1	0	0	1	0
1	0	1	0	0
1	0	0	0	1
0	1	1	1	0
0	1	0	1	1
0	1	1	0	1
1	1	1	1	1

108 { $S=0 \& C_o=0 \rightarrow A=B=C_i=0$
 $S=1 \& C_o=1 \rightarrow A=B=C_i=1$

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if $S=1 \& C_o=0$ then: $\left\{ \begin{array}{l} \text{if } A=1 \text{ then } B=C_i=0 \\ \text{if } B=1 \text{ then } A=C_i=0 \\ \text{if } C_i=1 \text{ then } A=B=0 \end{array} \right.$	if $S=0 \& C_o=1$ then: $\left\{ \begin{array}{l} \text{if } A=0 \text{ then } B=C_i=1 \\ \text{if } B=0 \text{ then } A=C_i=1 \\ \text{if } C_i=0 \text{ then } A=B=1 \end{array} \right.$
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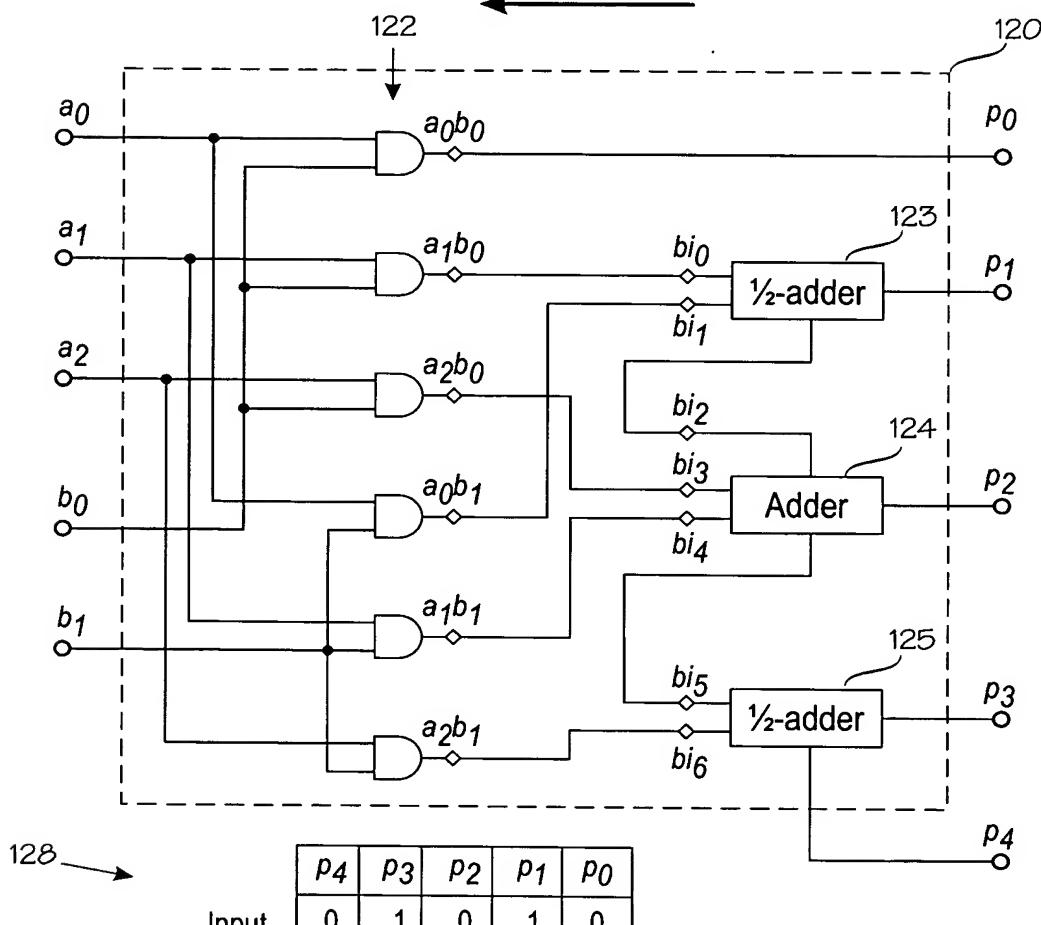
Fig. 11

$$\begin{array}{r}
 \times \\
 a_2 \quad a_1 \quad a_0 \\
 \hline
 b_1 \quad b_0 \\
 a_2b_0 \quad a_1b_0 \quad a_0b_0 \\
 a_2b_1 \quad a_1b_1 \quad a_0b_1 \\
 \hline
 c_2 \quad c_1 \quad c_0 \\
 p_4 \quad p_3 \quad p_2 \quad p_1 \quad p_0
 \end{array}$$

Multiplication

Factoring

Fig. 12



Bias State	bi_0	bi_1	bi_2	bi_3	bi_4	bi_5	bi_6
-	1	-	-	1	-	1	
0	1	0	0	0	0	0	1

Result	a_2	a_1	a_0	b_1	b_0
	1	0	1	1	0

Fig. 13

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Fig. 14

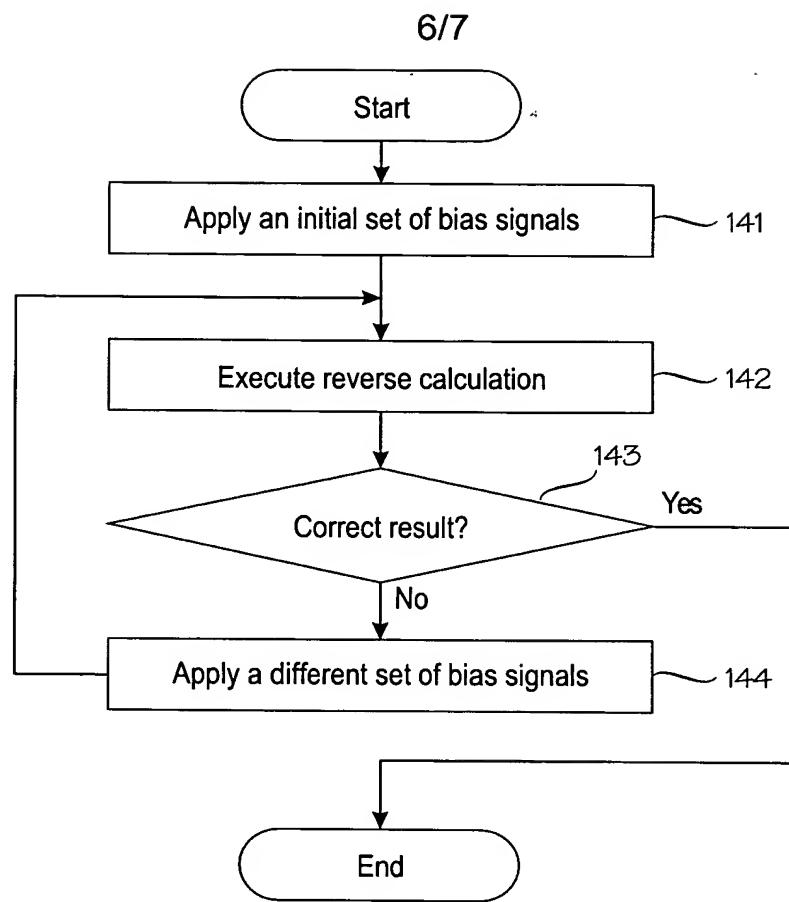


Fig. 15

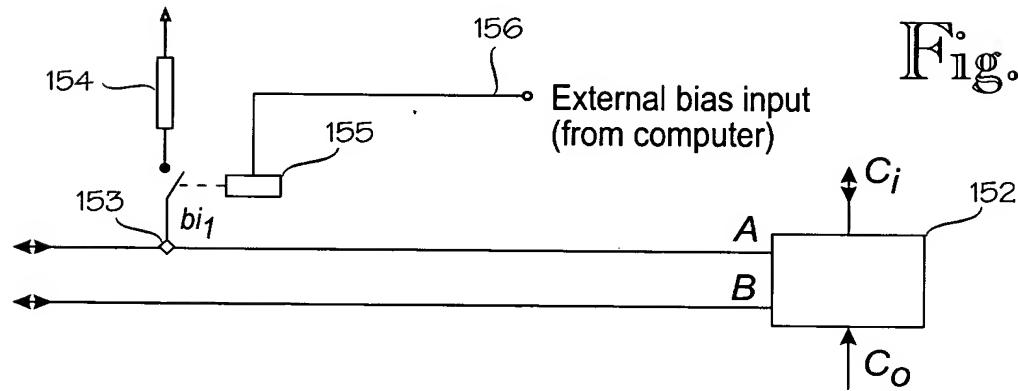


Fig. 16

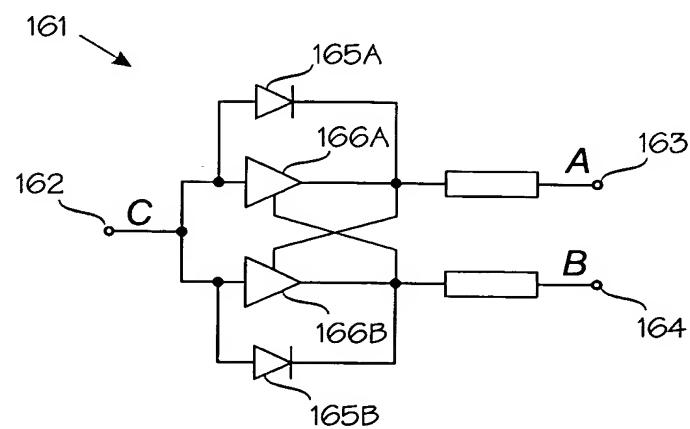


Fig. 17

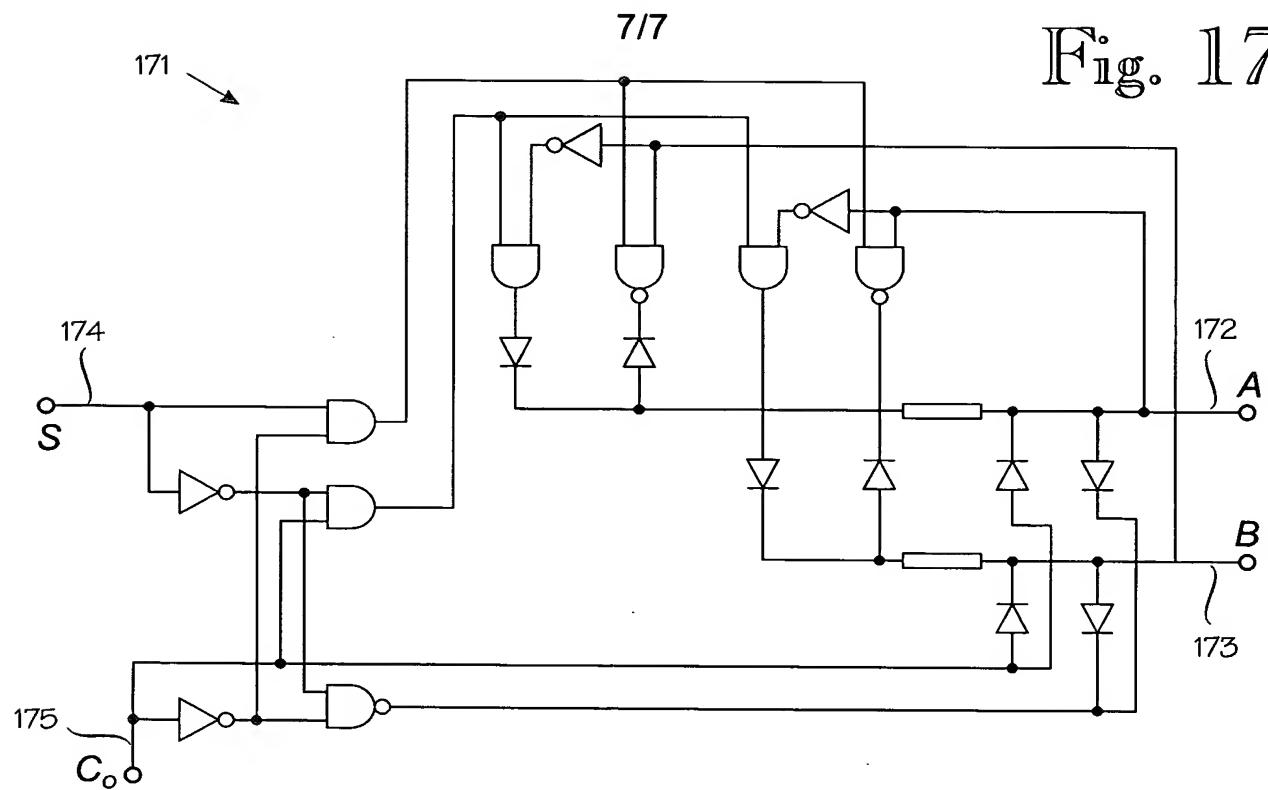


Fig. 18

